THE ABNORMAL GALL BLADDER IN NIGERIA
A Ten Year Study (1957-1967)

R. PARNIS
M.B.E., M.D., F.R.C.S., D.T.M. & H.

Summary

1. **Gall bladder disease is not rare in Nigeria.**
2. **The aetiological factors are probably different from those in temperate lands.**
3. **There is increasing awareness among clinicians of its occurrence, both in Nigeria and in neighbouring countries.**

The statement by Manson Bahr (1966) that the rarity of cholecystitis in tropical races is striking is correct in so far as gall bladder disease is considered relatively to its very high incidence in Europe and in North America. In those continents, it is found that 32% of women and 16% of men over the age of 40 have gall stones (Wilson and Macdonald 1963). (Cholecystitis is so often associated with gall stones that it is difficult to deal separately with the two conditions). When, however, we deal with the incidence of gall bladder disease without making comparisons with other countries then the word "rarity" is out of place. Evidence in support of this statement comes from the clinical records, the X-Ray department and the post-mortem room of University College Hospital, Ibadan over the last 10 years. All the patients to be considered were negroes, living in West Africa: Europeans and Asians were excluded from this study. The majority came from in and around Ibadan but until political trouble got serious in the West in 1965 a sizeable proportion came from other parts of Nigeria and a few from Ghana, Sierra Leone and Cameroun. In the last 5 years 27 out of the 35 patients with cholecystitis were Yorubas of the West.

Clinical evidence

The number of patients with gall bladder disease admitted to the wards was 80, 70 of whom had cholecystitis with or without gall stones.

The remaining 10 were made up as follows:—

Congenital biliary atresia 2 (An autopsy was done on one).
Choledochus cyst 2.
Carcinoma of the gall bladder 2 (one was autopsied).
Typhoid cholecystitis 4.

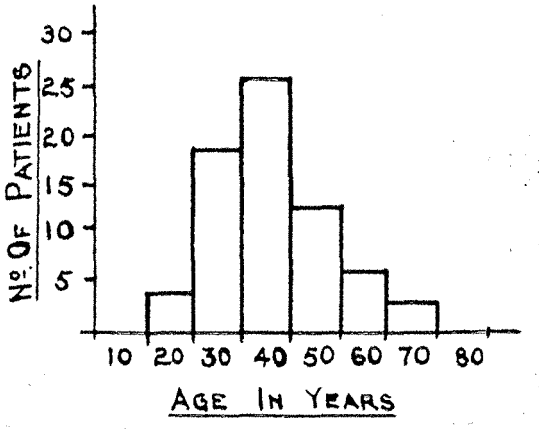
These 4 cases of typhoid cholecystitis were made up of three women and 1 man. 2 of the women stopped excreting *Salm. typhi* when their gall bladders were removed. This was not so in the case of the third woman and the man; they were excreting organisms regularly, years after their operations.

Cholecystitis and Cholelithiasis

47 of the 70 patients were female, a female to male ratio of 2: 1. The proportion of female sufferers from this complaint is is almost certainly higher than this: it is much more difficult for a woman to reach hospital in Nigeria than it is for a man, for cultural, domestic and financial reasons.

The age incidence is shown in the following histogram.

AGE INCIDENCE-CHOLECYSTITIS



This figure suggests that the average age is lower than it is, for example, in England though too much emphasis must not be put on this because many of the ages noted were approximate or estimated ones.

Blood group and genotype: In the cases in which these factors were investigated the relative incidence of the various groups was the same as in the general population.

Presentation: In 50 patients the picture was one of chronic cholecystitis. 11 of them were jaundiced. 11 had acute cholecystitis 2 of them with jaundice and 7 had acute cholecystitis with evidence of chronic gall bladder disease. 2 patients, one male and one female, were found to have gallstones during operations for chronic duodenal ulceration; cholecystectomy was carried out in both cases.

At operation: the gallbladder was removed either straightaway or after a period of drainage, except in 4 cases (1 died and 3 were unfit for further surgery). It was found necessary to open the common bile duct on 10 occasions only.

Stones were present in 50 patients. Unfortunately the nature of the stones was not always described but there was a definite preponderance of pigment ones.

Mortality: 7 death were reported, 2 from peritonitis following acute cholecystitis, 2 from liver failure and 1 through acute pancreatitis 1 month after operation. One died on the same day of operation when she had a vagotomy and pyloroplasty done in addition to a cholecystectomy.

The seventh patient was moribund on admission owing to perforation of the gall bladder and peritonitis and so was not operated on.

Radiological evidence

A summary appears in the following table:

Table

CHOLECYSTOGRAPHY

EXAMINATIONS	455
VERY POOR OR ABSENT FUNCTION	115
OPAQUE GALLSTONES (1 IN C.B.D.)	10
NON-OPAQUE STONES (2 IN C.B.D.)	11
OTHER ABNORMALITIES	5

166 examinations were done in the first five years and 289 in the second, an appreciable jump which suggests an increased awareness of the possibility of disease on the part of clinicians. Such an awareness is also noticeable in French speaking tropical Africa (Bourrel P., Malchair G., Brenot G., Piquard B. and Chatelan J-L., 1966). Over a quarter of the patients produced an abnormal cholecystogram though in some cases the lack of dye concentration would be due to non-absorption, e.g. in diarrhoea, or to liver disease.

The other abnormalities mentioned in the table include two dilated common bile ducts, 2 fistulae with the gut and one carcinoma.

Autopsy findings

In the ten year period under review 8675 autopsies were carried out with the following relevant findings:

56 gall bladders contained stones
2 patients had stones in the common bile duct.
4 had carcinoma of the gall bladder including one with a gallstone and
3 infants had congenital atresia of the bile ducts.

This gives an incidence of disease of well below 1% in routine autopsies but the figure is in fact a biased one. The incidence of stones rises sharply at around 40 years of age (Wilson and Macdonald, 1963). A high proportion of the autopsies were on neonates and on children. Even so it is certain that the incidence of gallstones is much lower than it is in 'western' countries.

Discussion

Gall bladder trouble often remains at a bearable or sub-clinical level (Davey, 1968). The known cases are, therefore, only a small proportion of the total and this is especially the case in countries where hospitals are few and far between, money for medical care is short, radiological help rare and proper post-mortem examinations infrequent. In addition, individual doctors working alone may be inclined to medicine or to obstetrics and may only do such surgery as is forced on them.

However, the evidence from the post-mortem room at U.C.H. Ibadan suggests that the incidence is low in comparison with temperate countries. In such countries gall stones reflect ver faithfully the dietary and indirectly the economic conditions prevailing. For example, Sweden, the United States and Holland which all have a high standard of living and a high fat content in the diet also have a high incidence of gall bladder disease. In Holland, in the last war the number of patients fell to near zero with the rationing of food and especially of fats (Taylor, Cotton & Murray, 1967).

Negroes in the United States seem to suffer from a much higher incidence of gall bladder disease than those in Nigeria. For example, in the Charity Hospital, New Orleans, between 1957 and 1960 there were 374 Caucasian and 321 negro patients with chronic cholecystitis during a period when the caucasian to negro admission rate was 3:5 (de Marco A., Nance F and Cohn 1., 1968).

In Nigeria animal fats are not eaten on a large scale. It is possible that the aetiology of gall stones here depends more on the link with episodes of haemolysis. It is well known that in the European who has had malaria, pigment stones are liable to form due to hyperbilirubinaemia (Ross, 1932). Such episodes of haemolysis in the Nigerian could be due to malaria, especially in pregnant women, to SS disease and also possiby to sickle cell trait and deficiency in glucose--6-phosphate dehydrogenase. It is interesting that pigment stones appear to be the common variety encountered here.

References

Bourrel P., Malchair G., Brenot G., Piquard B. and Chatelan J.L., (1966) Bull. Soc. Med. Afr. Noire Lang. Franc. 11, 772.

Davey W.W. (1968) Companion to Surgery in Africa p. 195 Edinburgh: Livingstone.

de Marcho A., Nance F. and Cohn I., (1968). Surg. 63, — 5, 750.

Manson Bahr P., (1966). Manson's Tropical Diseases p. 5 London: Bailliere, Tindall & Cassell.

Ross G.R. (1932) Researches on Blackwater fever in S. Rhodesia Memoir Series: Lond. School Hyg. & Trop. Med. 6.

Taylor, Cotton & Murray (1967) A short text book of surgery p. 332. London: English Universities Press.

Wilson & Macdonald (1963) Handbook of surgery p. 316 Los Altos, California: Lange Medical Publications.